Environment-interactive context-aware devices and methods

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Abstract of **EP1217549**

Location aware handheld portable computing devices, methods of operating the same, and computer architectures are described. In one described embodiment, a handheld portable computing device determines its location. The device can then acquire digital data that enables a user of the device to interact with a location environment. The digital data can comprise different types of data that permit environmental interaction. One type of data comprises one or more applets that can be loaded and executed by the device. Other types of data include code download pointers such as URLs that can point to Internet-accessible locations from which applets can be obtained. The device can include an applet cache that can maintain one or more applets for future use on the device. When a device location changes, the device can flush or otherwise empty the cache of applets that are no longer needed. In one particular embodiment, the device determines it location by accessing one or more hierarchical tree structures each of which comprising multiple nodes that represent physical or logical locations. The device, or software code that is executing on the device, can then traverse at least one node on the one or more hierarchical tree structures to ascertain a device location.

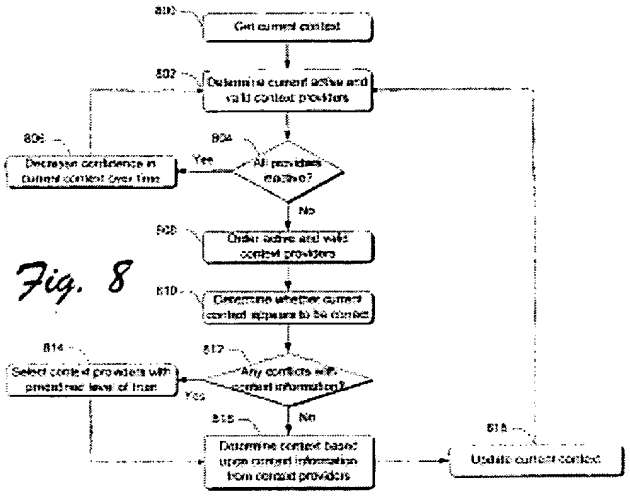
Get current context
Determine current active and valid context providers
Decrease confidence in current context over time
Yes
All providers responded?
No
Order active and valid context providers
Determine whether current context appears to be correct
Any conflicts with current information?
Select context providers with present/next level of trust
Yes
No
Determine context based upon current information from context providers
Update current context

Fig. 8